

**Notice of Allowability**

Application No.

09/485,512

Applicant(s)

JOHNSON ET AL.

Examiner

Art Unit

Mary E. Mosher, Ph.D.

1648

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/5/2006.
2. ☒ The allowed claim(s) is/are 1,4,28,30-32,39,40,42,44-62 and 70-73.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☒ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>9/5/06, 2/27/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

Mary E Mosher, Ph.D.  
Primary Examiner  
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### **DETAILED ACTION**

The examiner of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1648, examiner Mosher.

Interference 105,358 having concluded with a decision favorable to applicant, prosecution is hereby resumed.

The Board's direction to the examiner to consider the issues raised by Reddy interference motions 2 and 3 has been carried out. Applicant's amendments to the claims on 9/5/2006 render the issues moot.

In view of the papers filed 10/25/2004, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by addition of inventors McCoy and Sheppard.

However, as a result of the change in inventorship, the oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: The oath or declaration originally filed 5/20/2000 did not include the names of all of the inventors, and the oath or declaration filed 10/25/2004 (which names all of the inventors) was not signed by all of the inventors.

Applicant is now required to submit a substitute declaration or oath to correct the deficiencies set forth above. The substitute oath or declaration must be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability" (PTO-37). Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136. Failure to timely file the substitute declaration (or oath) will result in **ABANDONMENT** of the application. The transmittal letter accompanying the declaration (or oath) should indicate the date of the "Notice of Allowance" (PTOL-85) and the application number in the upper right hand corner.

#### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Nabeela McMillian on 9/26/2007.

In the Drawings, Figures 14 and 15 have been cancelled.

In the Abstract, the line break between lines 4 and 5 has been deleted, so that the abstract becomes one single paragraph.

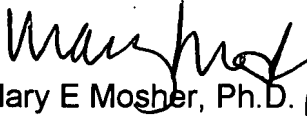
Claims 28 and 30 have been amended as shown on the attached listing of all the claims. The amendment was made to restore the recitation "of PAV-3" that was found in cancelled claim 2, from which these claims formerly depended.

A complete listing of the claims is attached, because the amendment filed 9/5/2006 did not present all of the claims according to the required format.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. Mosher, Ph.D. whose telephone number is 571-272-0906. The examiner can normally be reached on varying dates and times; please leave a message..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Mary E Mosher, Ph.D.  
Primary Examiner  
Art Unit 1648

9/26/07

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**Complete Listing of All the Claims**

1. [previously presented] A recombinant porcine adenovirus expressing heterologous DNA, said DNA of interest being stably integrated into a site of said recombinant porcine adenovirus genome wherein said site is a non-essential region of a site selected from the group consisting the E3 region and map units 97-99.5 of PAV3.

2-3. [cancelled]

4. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said recombinant porcine adenovirus includes a live porcine adenovirus having virion structural proteins unchanged from those in a native porcine adenovirus from which said recombinant porcine adenovirus is derived.

5-27. [cancelled]

28. [amended] A recombinant vector as including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is stably integrated into a non-essential region of the right hand end of the genome at map units from 97 to 99.5 of PAV-3.

29. [cancelled]

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30. [amended] A recombinant vector as including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is stably integrated into a non-essential region of the adenovirus E3 region of the genome of PAV-3.

31. [previously presented] A method of producing a recombinant porcine adenovirus vector for use as a vaccine including inserting into a non-essential region of a porcine adenovirus genome, at least one heterologous nucleotide sequence in association with an effective promoter sequence wherein said heterologous nucleotide sequence is inserted into a site selected from the group consisting the E3 region and map units 97-99.5 of PAV3.

32. [previously presented] A method as claimed in claim 31 wherein prior to insertion of said heterologous nucleotide sequence, a restriction enzyme site is inserted into said non-essential region of said porcine adenovirus genome.

33-38. [cancelled]

39. [previously presented] A method of vaccination of pigs against disease including administering to said pigs a first recombinant porcine adenovirus vector stably incorporating, and expressing a heterologous nucleotide sequence encoding at least one antigenic determinant of said disease against which vaccination is desired, wherein

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said heterologous nucleotide sequence is inserted into a site selected from the group consisting of one the E3 region and map units 97-99.5 of PAV3.

40. [previously presented] A method as claimed in claim 39 including administering to said pig a second porcine adenovirus vector including at least one heterologous nucleotide sequence which differs from a heterologous nucleotide sequence incorporated in said first recombinant porcine adenovirus vector.

41. [cancelled]

42. [previously presented] A method as claimed in claim 40 wherein said second porcine adenovirus vector incorporates, and is expressing at least one heterologous nucleotide sequence encoding an immuno-potentiating molecule.

43. [cancelled]

44. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic polypeptide.

45. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an immuno- potentiating

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molecule.

46. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes antigenic determinants of infectious agents causing intestinal diseases in pigs.

47. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes antigenic determinants of infectious agents causing respiratory diseases in pigs.

48. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic determinant of pseudorabies virus (Aujeszky's disease virus).

49. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic determinant of glycoprotein D of pseudorabies virus.

50. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine respiratory and reproductive syndrome virus (PRRSV).



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51. [previously presented] A recombinant vector as claimed in claim 44

wherein said heterologous nucleotide sequence encodes an antigenic determinant of Hog cholera virus.

52. [previously presented] A recombinant vector as claimed in claim 44

wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine parvovirus.

53. [previously presented] A recombinant vector as claimed in claim 44

wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine coronavirus.

54. [previously presented] A recombinant vector as claimed in claim 44

wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine rotavirus.

55. [previously presented] A recombinant vector as claimed in claim 44

wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine parainfluenza virus.

56. [previously presented] A recombinant vector as claimed in claim 44

wherein said heterologous nucleotide sequence encodes an antigenic determinant of

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*Mycoplasma hyopneumonia*.

57. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes FMS-like tyrosine kinase 3 (FLT-3) ligand.

58. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes interleukin-3 (IL-3).

59. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes porcine interleukin- 4 (IL-4).

60. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes gamma interferon.

61. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes porcine granulocyte macrophage colony stimulating factor (GM-CSF).

62. [previously presented] A recombinant vector as claimed in claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes porcine granulocyte colony

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stimulating factor (G-CSF).

63-69. [cancelled]

70. [previously presented] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into a the E3 region of the PAV3 genome region.

71. [previously presented] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into a PAV3 genome region spanning mapping units 97-99.5 of PAV3.

72. [previously presented] A recombinant porcine adenovirus expressing heterologous DNA, said DNA of interest being stably integrated into a site of said recombinant porcine adenovirus genome wherein said site is a non-essential region of a site selected from the group consisting of the E3 region and map units 97-99.5 of PAV3 wherein said recombinant porcine adenovirus comprises the major late promoter and tripartite leader elements of PAV3.

73. [previously presented] A recombinant vector including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is incorporated into a non-essential region of a site selected from the

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group consisting of the E3 region and map units 97-99.5 of PAV3 wherein said recombinant porcine adenovirus comprises the major late promoter and tripartite leader elements of PAV3.